

### **REMARKS**

Claims 1, 3 and 5-8 are pending and under consideration in the above-identified application. Claims 2, 4 and 9-18 was previously cancelled.

In the Office Action dated October 2, 2008, the Examiner rejected claims 1, 3 and 5-8.

With this Amendment, claim 1 was amended. No new matter has been introduced as a result of the amendment.

#### **I. 35 U.S.C. § 102 Anticipation Rejection of Claims**

Claims 1, 3 and 6-8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Sonoda, et al. (U.S. Patent Application 2002/0028389). Applicant respectfully traverses this rejection.

Claim 1 requires a battery that includes a cathode, an anode, and an electrolyte. The cathode contains an active material capable of inserting and extracting lithium and the anode includes an anode current collector and an active material layer. The active material layer is a thin silicon film formed by at least one method from the group consisting of gas phase method, liquid phase method and sinter method, the methods effectively inhibiting the destruction by expansion or shrinkage of the anode active material layer and forming an alloy between at least part of the interface between the active material layer and the anode current collector.

The formation of the thin silicon film is product by process limitation that should have patentable weight because the process imparts distinctive structural characteristics on the final product. *In re Garnero*, 412 F.2d 276, 279 (CCPA 1979). As discussed above, the active material layer is a thin silicon film formed by at least one method from the group consisting of gas phase method, liquid phase method and sinter method. The methods required by the claims to form the active material layer create an alloy between at least part of the interface between the active

material layer and the anode current collector. As a result of the alloy between at least part of the interface between the active material layer and the anode current collector, destruction of the active material layer by expansion or shrinkage is prevented. As such, the product-by-process limitation in the claims imparts distinctive structural characteristics on the final product, namely an alloy between at least part of the interface between the active material layer and the anode current collector, which effectively inhibits destruction of the active material layer.

Sonoda et al. teaches a non-aqueous electrolyte device that includes an anode that has an active material made of lithium metal, carbon materials, metal oxides and metals capable of forming an alloy with alkali metals. Sonoda et al., Paragraphs [0043-0044]. Sonoda et al. does not teach or even fairly suggest an active material layer that is a thin silicon film as required by the claims. Additionally, Sonoda et al. does not teach or even fairly suggest that the thin silicon film is formed by gas phase method, liquid phase method or a sinter method. As discussed above, these methods inhibit the destruction by expansion or shrinkage of the anode active material layer and form an alloy between at least part of the interface between the active material layer and the anode current collector. As such, Sonoda et al fails to teach or even fairly suggest all the requirements of the claims. Accordingly, claims 1, 3 and 6-8 are patentable over the cited references. Thus, Applicants respectfully request the above rejection be withdrawn.

## **II. 35 U.S.C. § 103 Obviousness Rejection of Claims**

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Sonoda, et al. Applicant respectfully traverses this rejection.

As discussed above, Sonoda et al. fails to teach or even fairly suggest all the required element of independent claim 1. As such, dependant claim 5 is patentable over the cited

references for at least the same reasons as claim 1. Accordingly, Applicants respectfully request that the above rejection be withdrawn.

**III. Conclusion**

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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